

Amendments to the Specification:

In the specification:

Please revise the first full paragraph beginning on page 3, line 2, as follows:

Fig. Figures 1A and 1B shows show VSP homologies between vegetative storage protein (VSP) and other proteins, as follows.

Please revise the first full paragraph beginning on page 3, line 3, as follows:

VSP-b (same as VSP $\beta$ ) and VSP-a (same as VSP $\alpha$ ): Staswick, P.E., (1988), Plant Physiol. 87, 250-254. The amino acid sequence of the VSP-b protein is set forth in SEQ ID NO:1, and the amino acid sequence of the VSP-a protein is set forth in SEQ ID NO:2.

Please revise the first full paragraph beginning on page 3, line 6, as follows:

T.phos (tomato acid phosphatase): Erion, J.L., Ballo, B., May, L., Bussell, J., Fox, T.W., & Thomas, S.R., SwissProt database accession number P27061. The amino acid sequence of this protein is set forth in SEQ ID NO:3.

Please revise the first full paragraph beginning on page 3, line 9, as follows:

Ph.vulg (Phaseolus vulgaris): Zhon, P-Y., Tanaka, T., Yamauchi, D., & Minamikawa, T. (1997), Plant Physiol. 113, 479-485. The amino acid sequence of this protein is set forth in SEQ ID NO:4.

Please revise the first full paragraph beginning on page 3, line 12, as follows:

Ar.VSP (Arabidopsis thaliana): Yu, D.Y., Quigley, F., & Mache, R., EMBL database accession number X79490. The amino acid sequence of this protein is set forth in SEQ ID NO:5.

Please revise the first full paragraph beginning on page 3, line 15, as follows:

Ar.1A-1, Ar17A-1 (Arabidopsis thaliana, floral organs): Utsugi, S., Sakamoto, Ogura, Y., Murata, M., & Motoyoshi, F. (1996) Plant Mol. Biol. 32, 759-765. The amino acid sequence of

the "Ar.1A-1" protein is set forth in SEQ ID NO:6, and the amino acid sequence of the "Ar17A-1" protein is set forth in SEQ ID NO:7.

Please revise the first full paragraph beginning on page 3, line 18, as follows:

Fig. 2 shows proposed VSP $\beta$  methionine-enriched variants. The amino acid sequence of the "VSP $\beta$  -Met10" protein is set forth in SEQ ID NO:8, the amino acid sequence of the "VSP $\beta$  -Met20" protein is set forth in SEQ ID NO:9, and the amino acid sequence of the "VSP $\beta$  -Met30" protein is set forth in SEQ ID NO:10.

Please revise the first full paragraph beginning on page 3, line 23, as follows:

Fig. 4 shows the VSP $\beta$ -met10 nucleotide sequence. The VSP $\beta$  -met10 nucleotide sequence is also set forth in SEQ ID NO:11.

Please revise the Abstract, beginning on page 27, line 5, as follows:

Methods and compositions for altering amino acid composition of a protein of interest are provided, particularly proteins whose three-dimensional structure is unknown. The method comprises creating interacting molecules to the native protein and selecting for engineered proteins which retain the native conformation by antibody binding. In this manner, the levels of essential amino acids in a protein can be increased yet the biological activity of the protein maintained. Also provided is an exemplary plant protein--*Glycine max* vegetative storage protein (VSP)--in which methionine levels have been increased.

Please revise the first full paragraph beginning on page 8, line 14, as follows:

The transcriptional cassette will include the in 5'  $\rightarrow$  3' 5'-3' direction of transcription, a transcriptional and translational initiation region, a DNA sequence of interest, and a transcriptional and translational termination region functional in plants. The termination region may be native with the transcriptional initiation region, may be native with the DNA sequence of interest, or may be derived from another source. Convenient termination regions are available from the Ti-plasmid of *A. tumefaciens*, such as the octopine synthase and nopaline synthase

termination regions. See also, Guerineau et al., (1991) Mol. Gen. Genet. 262:141-144; Proudfoot (1991) Cell 64:671-674; Sanfacon et al. (1991) Genes Dev. 5:141-149; Mogen et al. (1990) Plant Cell 2:1261-1272; Munroe et al. (1990) Gene 91:151-158; Ballas et al. 1989) Nucleic Acids Res. 17:7891-7903; Joshi et al. (1987) Nucleic Acid Res. 15:9627-9639.

Please revise the first full paragraph beginning on page 18, line 4, to read as follows:

(a) Conserved residues (~~highlighted in blue~~ shown in Fig. 1) were defined as those residues occurring in more than 5 of the 7 homologs. These were not targeted for substitution. The exceptions were: at residue numbers 19, 37, 146 and 179 (one of the homologs contained a methionine residue); at positions 67, 80, 130 and 169 (conserved hydrophobic amino acid exchanges observed in at least one sequence) and at position 50 (non-conservative changes from Asn to Ser/Cys in two sequences).

Please revise the first full paragraph beginning on page 21, line 6, as follows:

Fifty *E. coli* colonies containing randomly mutated VSP $\beta$  genes were picked as small patches to an SB agar plate containing glucose and ampicillin. Patches were allowed to grow overnight at ~~37°C~~ 37°C and were then transferred to a nitrocellulose filter. On the surface of an SB agar plate containing ampicillin and IPTG, this filter was placed on top (cell-side up) of a separate blocked filter to which the antigen (e.g., VSP $\alpha$ ) had been coated. During an overnight incubation at ~~30°C~~ 30°C, the cells expressed the VSP $\beta$  variant they encoded. These proteins were able to diffuse through the top filter and, if correctly folded, bind the antigen-coated filter below. The next day, the antigen-coated filter was washed with PBS-0.05% [tween] Tween™ and incubated with HRP/anti-e tag conjugate. Since the VSP $\beta$  mutants are cloned into the pCANTAB-5E vector which fuses a C-terminal epitope tag (e-tag) to the VSP $\beta$  protein variants, bound proteins were detected by this antibody in combination with enhanced chemiluminescence detection.